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DEPARTMENT OF FISH AND GAME

Jerry Mallet, Interim Director

FEDERAL AID IN SPORT FISH RESTORATION

FISHERY MANAGEMENT PROGRAM
F-71-R-23

ANNUAL FISHERIES MANAGEMENT PERFORMANCE REPORTS*
1998

Project	I.	Surveys and Inventories
Project	II.	Technical Guidance
Project	III	Habitat Management
Project	IV.	Population Management
Project	V.	Coordination

*Copies of complete reports available from Idaho Department of Fish and Game, PO Box 25, Boise, ID 83707

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IDAHO
DEPARTMENT OF FISH AND GAME

Jerry Mallet, Interim Director

Federal Aid in Sport Fish Restoration
1998 Annual Performance Report
Program F-71-R-23

REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS
PANHANDLE REGION (Subprojects I-A, II-A, III-A, IV-A)

PROJECT I.	SURVEYS AND INVENTORIES
Job a.	Panhandle Region Mountain Lakes Investigations
Job b.	Panhandle Region Lowland Lakes Investigations
Job c.	Panhandle Region Rivers and Streams Investigations
PROJECT II.	TECHNICAL GUIDANCE
PROJECT III.	HABITAT MANAGEMENT
PROJECT IV.	POPULATION MANAGEMENT

By

Jim Fredericks, Regional Fishery Biologist
Ned Horner, Regional Fishery Manager
Jim A. Davis, Regional Fishery Biologist
Charles E. Corsi, Environmental Staff Biologist

1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-A Panhandle Region
Job:	a	Title:	Mountain Lakes Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

We conducted mountain lake surveys on Sand and Dennick lakes to assess the current status of the fisheries and evaluate current stocking rates. We used gill nets and angling to evaluate size structure, abundance, and growth of stocked fish. We also estimated the general level of human use the lakes received. Sand Lake appeared to receive light angling pressure and was characterized by moderate growth rates and a quality-size structure. Fish ranged from 220 mm to 438 mm in length and from one to four years in age. Because of the low angler use and only average growth rates, a reduction from annual stocking to alternate year stocking is recommended.

Dennick Lake appeared to have a relatively low abundance of fish and was particularly lacking in quality-sized fish. We caught only four cutthroat trout *Oncorhynchus clarki*, which ranged in length from 162 to 285 mm and were from one to three years old. Growth was slow in comparison to Sand Lake and other lake populations. We caught one brown trout *Salmo trutta*, which was 335 mm, and was presumably a slow-growing survivor from a group of 150 fish mistakenly stocked in Dennick Lake in 1992. Our survey indicated cutthroat trout had slow growth and low relative weights, suggesting a lack of available forage and indicating that lower stocking densities might improve the fishery.

We surveyed Porcupine Lake to assess species composition. We evaluated the feasibility of eradicating brook trout *Salvelinus fontinalis* in Porcupine Lake with the use of piscicides to benefit the downstream bull trout *S. confluentus* are population. The survey of Porcupine Lake supported our belief that bull trout not present in Porcupine Lake and are restricted to the portion of Porcupine Creek below the high gradient reach near the lake outlet. Brook trout are abundant and reproducing naturally in Porcupine Lake. Although chemical renovation could be used to eradicate brook trout from Porcupine Lake and the upper reaches of Porcupine Creek, such an effort would be difficult and precarious because of the volume of discharge from the lake and the proximity of bull trout in Porcupine Creek. Explosives appear to have the most potential to eliminate brook trout from Porcupine Lake without jeopardizing the bull trout population.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-A Panhandle Region
Job:	b	Title:	Lowland Lake Investigations
Contract Period	July 1, 1998 to June 30, 1999		

ABSTRACT

A midwater trawl was used to estimate the kokanee *Oncorhynchus nerka kennerlyi* population in Coeur d'Alene Lake in July. The age-3 kokanee density was the lowest it has been since trawling began in 1979, at 8 fish/ha. The population of age-2 kokanee was estimated at 9 fish/ha, also the lowest since 1979. The mean size of spawning kokanee was 322 mm and 340 mm for females and males, respectively, which is the largest mean spawner size since 1960.

Twenty-five fall chinook salmon *O. tshawytscha* redds were counted in the Coeur d'Alene River drainage in 1998. Fifty-five thousand two hundred hatchery produced fall chinook salmon were stocked in Wolf Lodge Bay to supplement natural fall chinook salmon production.

A midwater trawl was used to estimate the kokanee population in Spirit Lake in July. The age-3 population was estimated at 27,800 fish, a density of 49 fish/ha, and the age-2 kokanee population was estimated at 86,900 fish, a density of 153 fish/ha. The 1998 population estimates are below average for all age-classes.

A fisheries volunteer tagged 59 additional lake trout *Salvelinus namaycush* in Priest Lake. Eleven lake trout tagged in previous years were caught and reported in 1998. Growth ranged from 0 to 7 cm/year, with an average annual growth of 2.5 cm/year. Lake trout were recaptured an average of 7 km from the site of original capture.

A standardized survey of Jewel Lake indicated the quality of the trout fishery has deteriorated as a result of an over abundant yellow perch *Perca flavescens* population. Yellow perch comprised 97% of the sample biomass and had a modal size of 150 mm. Of the 25 trout collected, only one was over the legal minimum size of 355 mm.

Standardized lake surveys and low-intensity creel surveys of Cave, Medicine, and Killarney lakes indicated legal-sized largemouth bass *Micropterus salmoides* density ranged from 2.6 to 5.3 fish/ha. Based on tag returns, catch curves, and the creel surveys, more restrictive regulations are not warranted for largemouth bass in the Coeur d'Alene Lake system.

Conservation officers collected creel survey information from 489 residents and 41 non-residents, for a total of 530 anglers on 24 regional lakes and sloughs in 1998. In total, 694 angler hours were represented over 104 days in the lakes portion of the officer creel survey.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-A Panhandle Region
Job:	c	Title:	Rivers and Streams Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Westslope cutthroat trout *Oncorhynchus clarki lewisi* densities estimated from snorkeling transects in the catch-and-release sections of the North Fork Coeur d'Alene, Little North Fork Coeur d'Alene, and St. Joe rivers in 1998 were 0.95 cutthroat trout/100 m^2, 0.65 cutthroat trout/100 m^2, and 1.09 cutthroat trout/100 m^2, respectively. In the harvest sections of the same rivers, densities were 0.41 cutthroat trout/100 m^2, 0.39 cutthroat trout/100 m^2, and 0.097 cutthroat trout/100 m^2, respectively.

Abundance of westslope cutthroat trout estimated by electrofishing in the harvest section of the St. Joe River was 1,473 cutthroat trout in 1998, (0.13 cutthroat trout/100 m^2). Two population estimates were made in the catch-and-release section. In the Copper Creek reach, the estimate was 312 westslope cutthroat trout (0.92 cutthroat trout/100 m^2) and in the Simmons Creek reach the estimate was 466 cutthroat trout (1.51 cutthroat trout/100 m^2). A comparison of westslope cutthroat trout abundance > 200 mm was made for the Copper Creek reach between electrofishing and snorkeling estimates. The electrofishing estimate was 143 cutthroat trout (0.42 cutthroat trout/100 m^2) and the snorkeling estimate was 112 cutthroat trout (0.33 cutthroat trout/100 m^2).

The density of westslope cutthroat trout > 200 mm in the Upper Priest River was 0.22 cutthroat trout/100 m^2 estimated by a combination of angling and snorkeling. Bull trout *Salvelinus confluentus* and brook trout *S. fontinalis* were also found in all sections of the Upper Priest River in relatively low densities. Westslope cutthroat trout were widely distributed in tributaries to the Upper Priest River. Brook trout were also found in several tributaries with the highest concentrations in Ruby and Rock creeks.

Salmonid distribution and abundance were surveyed in twenty-one streams on lands administered by the Bureau of Land Management. Westslope cutthroat trout densities ranged from 0 to 33.9 cutthroat trout/100 m^2. Brook trout were found in eight of the 21 streams surveyed.

Estimates of return-to-the-creel for domestic Kamloops rainbow trout *O. mykiss* for the Moyie River, St. Maries River, and Big Creek (St. Joe River) were 7%, 7%, and 8%, respectively. The return rate for Colorado River rainbow trout stocked in the Moyie River was 3%. None of these return rates met the recommended return rate of 40%.

Department personnel counted 726 bull trout redds in the Pend Oreille Lake drainage in 1998. A total of 45 redds were counted in the Upper Priest Lake drainage and 21 redds were counted in the upper St. Joe River drainage. A total of four bull trout redds were counted in the upper Little North Fork Clearwater River drainage.

Bull trout implanted with radio transmitters traveled from Marble Creek upstream to spawning areas of the upper St. Joe River in 35 to 70 days, arriving by mid-August. They remained in this area for about 14 to 21 days and after spawning migrated downstream to over-winter in Coeur d'Alene Lake. There was a minimum 28.6 % post spawning mortality rate for radio-tagged bull trout.

The majority (63%) of the radio tagged westslope cutthroat trout over-wintered downstream of Marble Creek in the St. Joe River in 1998. One fish over-wintered upstream of Gold Creek, one fish over-wintered near Bird Creek, and one fish remained near the Avery Ranger Station.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project II:	Technical Guidance	Subproject:	I-A Panhandle Region
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Panhandle Region fisheries management personnel provided private individuals, organizations, public schools, and state and federal agencies with technical review and advice on various projects and activities that affect the fishery resources in northern Idaho. Technical guidance also included numerous angler informational meetings, presentations, and letters, continuation of the Panhandle Region portion of the 1-800 ASK-FISH program, and fishing clinics.

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1998 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-23

Project III: Habitat Management Subproject: I-A - Panhandle Region

Contract Period: July 1, 1998 to June 30, 1999

ABSTRACT

There were no habitat management related activities in the Panhandle Region during this contract period.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project IV:	Population Management	Subproject:	I-A -Panhandle Region
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Short-set gill nets were used in Upper Priest Lake from June through November to capture and remove 912 lake trout *Salvelinus namaycush*; approximately half of the initial Upper Priest Lake population. Movement of tagged fish and increasing catch rates in October and November indicated fish from Priest Lake were replenishing the population. Three bull trout *S. confluentus* were incidentally killed during the study. A multiple census population estimate indicated the population of adult bull trout in Upper Priest Lake at the time of the study was approximately 93 fish (95% confidence interval of 43-209 fish).

Five streams in the Upper Priest drainage were identified with sympatric populations of brook trout *S. fontinalis* and bull trout. Over 90% of the brook trout were removed in August and early September from two streams, but only half from the third stream. Removal success was related to the extent of woody debris and riparian cover. Several fish believed to be brook trout x bull trout hybrids were collected.

Bonner Lake was renovated with rotenone at a rate of approximately 1.1 mg/L on October 7, 1998, but the color and residual sludge of the rotenone caused us to question the integrity of the mixture. An electrofishing survey on October 14 indicated that we did not get a complete kill. In 45 min of electrofishing the entire shoreline, 17 pumpkinseeds *Lepomis gibbosus* were collected and six more were seen, for a catch rate of two min/fish. The pumpkinseeds ranged in size from 65 to 175 mm.

Panhandle Region lowland lakes and rivers were stocked with 141,452 put-and-take rainbow trout *Oncorhynchus mykiss*. A total of 318,085 put-grow-and-take rainbow were stocked. Cutthroat trout *O. clarki* stocking included 43,800 surplus broodstock, 347,622 put-grow-and-take and 451,281 surplus fry. The cutthroat net pen program for Pend Oreille Lake was discontinued in 1998. Other trout species stocked included 7,014 brook trout fingerlings and 2.48 million kokanee fry *O. nerka kennerlyi* for Pend Oreille Lake. No lowland lakes received kokanee in 1998. Coeur d'Alene Lake was stocked with 52,300 fall chinook *O. tshawytscha* fingerlings from the Priest Rapids Hatchery in Washington. No tiger muskie *Esox lucius x E. masquinongy* or channel catfish *Ictalurus punctatus* were stocked in 1998.

Hatchery personnel and volunteers stocked 25 mountain lakes in the Panhandle Region in 1998. Most lakes were stocked at a density of around 620 fish/ha. Species stocked included westslope cutthroat trout and domestic Kamloops rainbow trout.

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DEPARTMENT OF FISH AND GAME

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Federal Aid in Sport Fish Restoration
1998 Annual Performance Report
Program F-71-R-23

REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS
CLEARWATER REGION (Subprojects I-B)

PROJECT I. SURVEYS AND INVENTORIES
Job b. Clearwater Region Lowland Lakes Investigations
Job c. Clearwater Region Rivers and Streams Investigations

By

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject :	I-B Clearwater Region
Job:	b	Title:	Lowland Lakes Investigations
Contract Period:	July 1, 1998 to June 30,1999		

ABSTRACT

Clearwater Region fisheries management personnel and conservation officers checked 749 anglers that spent 1556 hours fishing lakes, ponds and reservoirs and caught 1500 game fish in 1998.

Black crappie *Pomoxis nigromaculatus* were recently illegally introduced into Winchester Lake. Creel checks at Winchester Lake indicate that black crappie accounted for 63% of all fish checked in 1998, surpassing rainbow trout as the primary game fish for the first time in decades.

Rainbow trout *Oncorhynchus mykiss*, kokanee *O. nerka kennerlyi* and smallmouth bass *Micropterus dolomieu* accounted for 44%, 33% and 23%, respectively, of the fish checked from Dworshak Reservoir in 1998. This represents a dramatic shift from a typically kokanee dominated fishery in the 1990s. This change is likely the result of increased rainbow trout stocking in response to low kokanee numbers caused by entrainment losses of over one million kokanee during flood control operations in 1996. As a result of low kokanee numbers, average total length of kokanee caught in Dworshak Reservoir was 351.4 mm, the largest in the 1990s.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management
Project I:	Surveys and Inventories	Subproject:	I-B Clearwater Region
Job:	c	Title:	Rivers and Streams Investigations
Contract Period:	July 1, 1998 to June 30,1999		

ABSTRACT

Clearwater Region fishery management personnel snorkeled or coordinated data collection for 138 stream transects within the Clearwater, Salmon, and Snake river drainages to obtain data for the long-term database. Chinook salmon *Oncorhynchus tshawytscha* juvenile numbers were higher than in previous years, as the adult return in 1997 was good. Fifty-seven adult chinook salmon redds were counted in traditional aerial spawning ground counts in the Lochsa and Selway rivers, and 48 were counted in the South Fork Clearwater drainage. Management personnel captured and PIT tagged three white sturgeon *Acipenser transmontanus* from the Snake River. We sampled seven Kamloops rainbow trout *O. mykiss* from the lower Clearwater River and found no fish in diet analysis. We collected 50 rainbow trout in the Salmon River. Residualized hatchery steelhead smolts represented 32.0% of the sample and stocked fingerling trout accounted for 16% of the sample. No fish or fish parts were identified in the contents of 16 hatchery origin trout stomachs. We collected 180 westslope cutthroat trout *O. clarki lewisi* in the mainstem North Fork Clearwater River from Aquarius (rkm 104.4) up to Kelly Forks (rkm 184.5) using traditional hook and line techniques. We tagged 159 of these cutthroat jaw tags. We counted 660 kokanee *O. nerka kennerlyi* spawners in three index tributaries of the North Fork Clearwater River.

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IDAHO
DEPARTMENT OF FISH AND GAME

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Federal Aid in Sport Fish Restoration
1998 Annual Performance Report
Program F-71-R-23

REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS
MCCALL SUBREGION (Subprojects I-C, II-C, III-C, IV-C)

PROJECT I.	SURVEYS AND INVENTORIES
Job a.	McCall Subregion Mountain Lakes Investigations
Job b[1].	McCall Subregion Lowland Lakes Investigations
Job b[2].	Cascade Reservoir, Yellow Perch Investigations
Job c.	McCall Subregion Rivers and Streams Investigations
Job d.	McCall Subregion Salmon and Steelhead Investigations
PROJECT II.	TECHNICAL GUIDANCE
PROJECT III.	HABITAT MANAGEMENT
PROJECT IV.	POPULATION MANAGEMENT

By

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Don Anderson, Regional Fishery Manager
Lauri Hostettler, Fishery Technician

1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-C McCall Subregion
Job:	a	Title:	Mountain Lakes Investigation
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Fish population status and physical habitat parameters were surveyed and stocking strategies were assessed on five mountain lakes in 1998.

Rainbow trout *Oncorhynchus mykiss* were collected from Riordan and Black lakes. A strong bull trout *Salvelinus confluentus* population was discovered in Riordan Lake. Westslope cutthroat trout *O. clarki lewisi* were collected from Riordan and Chilcoot lakes. Winifred Lake was dry. A brook trout *S. fontinalis* eradication project was implemented on Kimberly Lake #2.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-C McCall Subregion
Job:	b[1]	Title:	Lowland Lakes Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

We used a midwater trawl to estimate the population of age 0+, and 1+ kokanee *Oncorhynchus nerka kennerlyi* in Payette Lake on August 24, 1998. The respective population estimates for age-0 and age-1 were 461,034 +/- 47% (95% C.I.) and 59,481 +/- 78%.

Little Payette Lake was gillnetted in October to monitor relative numbers and biomass of fish species present. Trout species made up 8.7% and 8.8% of the catch by total number and total weight respectively. Northern pikeminnow *Ptychocheilus oregonensis* and largescale suckers *Catostomus macrocheilus* made up 84.4% of the total catch by number and 70% by weight

Cascade Reservoir angler count was made on Memorial Day, July 4th, and Labor Day to compare relative angling pressure with past survey years. The average number of fishing boats and shore anglers was 58 and 39.5, respectively.

We completed a Memorial Day weekend creel census on May 23-24, 1998 on Horsethief Reservoir estimating 3,932 angler hours were spent to catch 2,182 fish.

Standard lowland lake surveys were completed on Brundage, Lost Valley, Oxbow, and Hells Canyon reservoirs. We collected rainbow trout *O. mykiss* and westslope cutthroat trout *O. clarki lewisi* from Brundage Reservoir, and yellow perch *Perca flavescens*, rainbow trout, splake *Salvelinus fontinalis x S. namaycush*, cutthroat and brook trout *S. fontinalis* from Lost Valley Reservoir. We found smallmouth bass *Micropterus dolomieu* and channel catfish *Ictalurus punctatus* to be the most abundant fish in Oxbow Reservoir and smallmouth bass and white crappie *Pomoxis annularis* the most abundant in Hell's Canyon Reservoir. Total fish biomass was dominated by channel catfish and smallmouth bass in Oxbow Reservoir and by carp *Cyprinus carpio* and smallmouth bass in Hells Canyon Reservoir.

The population of cutthroat trout in Fish Lake is estimated to be 877 +/- 93 fish with 339 +/-154 greater than 270 mm.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-C McCall Subregion
Job:	b^2	Title:	Region 3 (McCall) Lowland Lakes Investigations - Cascade Reservoir, Yellow Perch Investigations

Contract Period: July 1, 1998 to June 30, 1999

ABSTRACT

Since 1995, the yellow perch *Perca flavescens* population in Cascade Reservoir appears to have become severely depressed. While no structured creel surveys were conducted recently, anglers reported poor to no yellow perch fishing success during all seasons of the year from 1996 through 1998. Entrainment of large numbers of perch through the dam was documented from 1992 through 1995. Investigations were begun to determine the population structure of perch in the reservoir and timing, the extent and population impacts of the entrainment. Movement and migration studies were started in the reservoir to determine if and when perch were vulnerable to entrainment. Population sampling showed perch numbers to be severely depressed with virtually none collected between 100 mm and 250 mm in length. There was a small number of fish greater than 250 mm. There has been very poor survival of juvenile fish since the early 1990s. Juvenile perch numbers were severely depressed in 1998 (3-fish/trawl transect) compared to catches in the mid 1980s (90-fish/trawl transect). Of the few perch collected in the otter trawl many were sick, moribund and dead juveniles. The majority of the juvenile fish collected were found to have high parasite loads. High juvenile perch mortality in the early 1990s was probably due to predation by the strong 1989 and 1990 age-classes, however causes for high juvenile mortality rates since 1994 are unknown. It appeared that entrainment of large numbers of perch was an indicator of good perch numbers in the reservoir and not the cause of the decline in perch numbers. Water quality and disease interactions appeared to have played a role in the perch decline.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-C McCall Subregion
Job:	c	Title:	Rivers and Streams Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

We estimated the 1998 kokanee salmon *Oncorhynchus nerka kennerlyi* spawning run in the North Fork Payette River above Payette Lake to be 25,232 fish with a total biomass of 3,608 kg.

We completed the Indian Creek survey in 1998 with a final fish and habitat survey transect above the Blue Jacket Mine road culvert. We collected a total of 27 bull trout *Salvelinus confluentus* for a population estimate of 270+/-20 (95% C.I.) per mile of stream. No redband trout *Oncorhynchus mykiss gairdneri* or brook trout *Salvelinus fontinalis* were collected, although brook trout have been previously collected in this section of stream.

We surveyed Kennally Creek and Gold Fork River for the presence of Colorado River strain rainbow trout *O. mykiss*, which were experimentally stocked in 1995. None of the marked Colorado River strain rainbow trout were collected. We collected a total of two rainbow trout, one brook trout, and 14 mottled sculpin *Cottus bairdi* in three transects.

We worked with the Boise and Payette National forests to survey the North Fork Kennally Creek and upper North Fork Gold Fork River for presence of bull trout. Snorkeling and electrofishing methods were used to survey mainstem and possible fish bearing tributaries. A resident population of bull trout was documented in one small tributary to the upper North Fork Gold Fork River. No bull trout were found in the North Fork Kennally Creek drainage. Other salmonids documented included rainbow trout, brook trout, and cutthroat trout *O. clarki*. Distributions and abundance were documented.

We completed two fish sampling transects on the Middle Fork Weiser River (MFWR), one transect on Mica Creek, and two on Granite Creek. We collected rainbow trout from the lower MFWR and Mica Creek and brook trout from Granite Creek and the headwaters of the MFWR.

Three temperature recorders monitored the upper Little Salmon River drainage throughout the summer. Mean daily river temperature peaked at 24.5°C in mid-July. The highest maximum daily temperature was recorded at 27.9°C at Hubbard Lane Bridge. The highest minimum daily temperature recorded was 21.3°C. Another temperature recorder in the North Fork of the Payette River, just below the confluence with Fisher Creek, at the USGS gauge, recorded temperatures throughout the summer.

Average daily temperature remained below 19.8°C. The highest daily temperature recorded was 23.6°C. The highest minimum daily temperature recorded was 17.7°C.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-C McCall Subregion
Job:	d	Title:	Salmon and Steelhead Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

McCall Subregion salmon and steelhead investigations are incorporated in separate statewide reports. These reports include: Salmon and Steelhead Investigations, Salmon Spawning Ground Surveys, Idaho Supplementation Studies, and Idaho Habitat/Natural Production Monitoring.

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1998 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-23

Project II: Technical Guidance Subproject: II-C McCall Subregion

Contract Period: July 1, 1998 to June 30, 1999

ABSTRACT

McCall Subregion fishery management personnel responded to more than 300 requests and opportunities for technical input. Comments were provided to state and federal agencies on proposed activities for which they have regulatory authority. Advice and technical assistance were provided to private businesses and the public on activities associated with fish, or having impacts on fish populations or fish habitat. The major topics of involvement included stream channel alterations, Idaho Outfitters and Guides licensing, private pond permits, and land management planning. We provided data and technical advice to an increased number of fisheries consultants.

We also gave presentations to schools, sporting groups, and civic organizations. We answered many questions from the angling public on fishing opportunities, regulations, techniques, and specific waters.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project III:	Habitat Management	Subproject:	III-C McCall Subregion
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

The Regional Fishery Manager participated on a technical advisory committee for the Big Payette Lake Water Quality Council. The group conducted studies and developed a comprehensive technical report identifying nutrient and bacterial contamination sources and recommended remedial action. The technical report resulted in a lake management plan and an implementation program, which were passed into legislation in the 1998 session.

Fishery personnel participated on a technical advisory committee for the Cascade Reservoir Restoration Project to improve water quality and fish habitat in Cascade Reservoir. The Idaho Division of Environmental Quality lists Cascade Reservoir as a water quality limited segment, which means it does not fully support beneficial uses, including cold water biota. The technical advisory committee was directed to identify phosphorus sources and develop reduction measures. A Total Maximum Daily Load has been established that will result in a 37% reduction in phosphorus loading. Source plans were prepared and an implementation plan is being drafted.

A conservation easement was obtained on 100 acres of private property in Burgdorf Meadows. This is a critical spawning area for wild summer chinook salmon *Oncorhynchus tshawytscha* and was imminently at risk of recreation home development. We prepared a proposal and sought funding to allow the Idaho Department of Fish and Game and Nez Perce Tribe to acquire the easement.

Fisheries personnel identified a need for screening to keep juvenile and adult rainbow trout *O. mykiss* out of Mahala Ditch on Lake Fork, a tributary to Cascade Reservoir. A low-tech, flat screen and a fishway were designed and constructed into the new diversion structure at Mahala Ditch. Various state and federal agencies, cost-sharing with the irrigators, jointly funded this.

A minimum stream resource maintenance flow in the North Fork Payette River above Payette Lake was modeled and recommended for adoption by the Idaho Legislature. The flow was chosen to maintain kokanee *O. nerka kennerlyi* spawning and egg incubation.

Authors:

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1998 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-23

Project IV: Population Management Subproject: IV-C McCall Subregion

Contract Period: July 1, 1998 to June 30, 1999

ABSTRACT

McCall area mountain lakes, lowland lakes, and streams were stocked with a total of 56,850 fry, 348,310 fingerlings, and 373,643 put-and-take size salmonids. We also stocked two warmwater species which included 165 sub-legal (<300 mm) smallmouth bass *Micropterus dolomieu* removed from Hells Canyon Reservoir and stocked into Little Payette Lake and 317 tiger muskie *Esox lucius x E. masquinongy* also stocked into Little Payette Lake.

We used gill nets to remove brook trout from Kimberly Lake #2. Cutthroat trout were then restocked.

Authors:

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IDAHO
DEPARTMENT OF FISH AND GAME

Jerry Mallet, Interim Director

Federal Aid in Sport Fish Restoration
1998 Annual Performance Report
Program F-71-R-23

REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS
SOUTHWEST REGION (Subprojects I-D, II-D, IV-D)

PROJECT I.	SURVEYS AND INVENTORIES
Job a.	Southwest Region Mountain Lakes Investigations
Job b.	Southwest Region Lowland Lakes Investigations
Job c.	Southwest Region Rivers and Streams Investigations
Job d.	Southwest Region Salmon and Steelhead Investigations
PROJECT II.	TECHNICAL GUIDANCE
PROJECT IV.	POPULATION MANAGEMENT

By

Dale Allen, Regional Fishery Biologist
Steve Elle, Regional Fishery Biologist
Brian Flatter, Senior Fishery Technician

1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I	Surveys and Inventories	Subproject:	I-D Southwest Region
Job No.:	a	Title:	Mountain Lakes Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

A total of 69 mountain lakes were visited in the upper Middle Fork Boise River in 1998. One sampling trip was conducted in which two fisheries staff visited the lakes with a volunteer supplying logistic support with a string of pack goats. Eight lakes were gillnetted and five of these lakes were also angled. Two lakes were angled only. Fifty-nine of the lakes visited were classified as "frog ponds" and only observations for the presence of fish and/or amphibians was undertaken. Six lakes contained westslope cutthroat *Oncorhynchus clarki lewisi* and one lake contained rainbow trout *O. mykiss*. Twelve ponds were identified that contained long-toed salamanders *Ambystoma macrodactylum*, four ponds had adult spotted frogs *Rana luteiventris* and two ponds had juvenile spotted frogs. Many of the ponds were only temporary in nature and were dry at observation.

Author:

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Regional Fishery Manager

1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject :	I-D Southwest Region
Job No.:	b	Title:	Lowland Lakes Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Six regional waters were sampled with a multiple gear lowland lake sampling strategy, which included use of pairs of experimental gill nets, trap nets and boat electrofishing. The following waters were sampled in this manner: C.J. Strike Reservoir, Lake Lowell, Manns Creek Reservoir, Paddock Valley Reservoir, and Red Top Pond.

Claytonia Pond and Crane Falls Lake were sampled with boat electrofishing only. Sampling with experimental gill nets only was completed on Deadwood Reservoir and Bull Trout Lake. A combination of trap nets and gill nets were used to sample Lucky Peak Reservoir.

A tag return study was initiated in Manns Creek Reservoir to document the angler return of hatchery catchable rainbow trout *Oncorhynchus mykiss*. Of the 10,000 rainbow trout stocked in 1998, a total of 900 fish were tagged. Signs were placed at the reservoir stating how to return the information and drop boxes were provided at the two boat ramps. No rewards were offered for return of the tag information. Over a 20-month period only 13.3% of the tags were returned.

A cooperative project was undertaken at Deadwood Reservoir with the U.S. Bureau of Reclamation to further document the strength of the bull trout *Salvelinus confluentus* population in the reservoir. Early spring trap netting was conducted in the reservoir. Two of the main tributary streams, Wild Buck and Basin Creeks, had weirs and traps to document any up or downstream movement of bull trout. Two bull trout were captured in the reservoir trap net sampling and no bull trout were captured in the tributary weirs.

U.S. Forest Service "camp hosts" from July to September 1998 conducted a creel survey at Bull Trout Lake and Martin Lake. In Bull Trout Lake, anglers expended an estimated 3,020 hours and harvested an estimated 49.6% of the stocked rainbow trout. On Martin Lake, anglers fished an estimated 1,276 hours and harvested an estimated 87.2% of the stocked rainbow trout.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject :	I-D Southwest Region
Job No.:	c	Title:	Rivers and Streams Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

A team of biologists attempted to develop a method to identify adult bull trout *Salvelinus confluentus* in the lower Deadwood River below Deadwood Dam. Four biologists floated the roadless section of river below the dam in inflatable kayaks to approximately 5 km from the river mouth. The pool habitat areas were sampled by snorkeling. The sampling crew did not locate any bull trout. Suitable snorkel sites were infrequent due to the high river gradient and flows.

A survey was conducted on the upper Deadwood River from Deer Creek to Deadwood Reservoir to locate any hatchery fall chinook *Oncorhynchus tshawytscha* redds. A total of 12 chinook redds were identified on October 6, 1998.

The Payette River was sampled with boat mounted electrofishing gear at eight stations from near Black Canyon Dam to the confluence with the Snake River. The data collected was used to define fish species distribution and their relative abundance from the dam to the mouth. Data collected was compared to data from 1977. Rainbow trout *O. mykiss* were not collected at any site. Mountain whitefish *Prosopium williamsoni* were present in all river reaches. Sculpin, *Cottus* spp. were only captured between Black Canyon Dam and the town of Emmett, Idaho.

Author:

Dale B. Allen
Regional Fishery Manager

1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-D Southwest Region
Job No.:	d	Title:	Salmon and Steelhead Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Salmon spawning ground surveys were conducted in Bear Valley, Elk, and Sulphur creeks trend areas on August 24-30, 1998. Salmon redds numbered 102, 105, and 47 in Bear Valley, Elk, and Sulphur Creek trend areas, respectively.

Additional data on Southwest Region salmon and steelhead investigations are incorporated in a separate, statewide Salmon and Steelhead Investigations report.

Author:

Dale B. Allen
Regional Fishery Manager

1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project II:	Technical Guidance	Subproject:	II-D Southwest Region
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Regional fishery personnel continue to respond to a large number of public requests for fishing information. Biweekly ASK FISH reports were prepared and forwarded to vendor for distribution. Regional fishery staff consulted with the Environmental Staff Biologist for requests on fish population status and concerns on a multitude of projects in the Southwest Region of the Department. Numerous requests for fish stocking advice and/or rates were received from local Treasure Valley residents.

Regional staff completed three pond construction projects within the Region in 1998. The Lowman Nature Fishing Ponds located near the Ten Mile Creek Bridge in upper South Fork Payette River were completed in cooperation with the Boise National Forest, Lowman Ranger District. The Idaho City Interpretive Center Pond was expanded with excavators, a fishing pier and aeration system were also added in cooperation with the City of Idaho City and the Boise Basin Interpretive Association. Ed's Pond was excavated from a shallow pit on Gem Island on lands owned by the Department and Gem County. Gem County contracted the excavation work and also used volunteer labor to construct the pond.

Author:

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project IV:	Population Management	Subproject:	IV-D Southwest Region
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

We enhanced fish populations in the Southwest Regional waters by stocking approximately 1,369,007 trout that weighed approximately 157,000 pounds.

Approximately 2,500 black crappie *Pomoxis nigromaculatus* were stocked in Lake Lowell and Paddock Valley Reservoir from Owyhee Reservoir in Oregon. The crappie were captured by local anglers and transported with permission of the Oregon Department of Fish and Wildlife. We transferred approximately 400 black crappie, 300 bluegill *Lepomis macrochirus* and 50 largemouth bass *Micropterus salmoides* from a private pond to Park Center Pond in Boise. From the same private pond we transferred 131 bluegill and 31 largemouth bass to a new pond in west Boise. Local bass anglers obtained a transport permit and moved 220 largemouth bass from Mountain Home Reservoir to C.J. Strike Reservoir.

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IDAHO
DEPARTMENT OF FISH AND GAME

Jerry Mallet, Acting Director

Federal Aid in Sport Fish Restoration
1998 Annual Performance Report
Program F-71-R-23

REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS
MAGIC VALLEY REGION (Subprojects I-E, II-E, III-E, IV-E)

PROJECT I. SURVEYS AND INVENTORIES
- Job a. Magic Valley Region Mountain Lakes Investigations
- Job b. Magic Valley Region Lowland Lakes Investigations
- Job c. Magic Valley Region Rivers and Streams Investigations

PROJECT II. TECHNICAL GUIDANCE
PROJECT III. HABITAT MANAGEMENT
PROJECT IV. POPULATION MANAGEMENT

By

Fred E. Partridge, Regional Fishery Manager
Charles D. Warren, Regional Fishery Biologist
Karen A. Frank, Fishery Technician

1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project:	I-Surveys and Inventories	Subproject:	I-E-Magic Valley Region
Job:	a	Title:	Mountain Lakes Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Three lakes within the South Fork Boise River drainage were surveyed for fish and fish habitat in 1998. Green Creek Lake had no fish present although conditions are suitable for supporting stocked fish in most years. Goat Lake had rainbow trout *Oncorhynchus mykiss* that were probably of hatchery origin since spawning habitat is of marginal quality for maintaining a fishery. Perkins Lake had good numbers of rainbow trout and one cutthroat trout *O. clarki* in the sample, most of which were probably of hatchery origin since spawning habitat is of marginal quality for maintaining a fishery.

Author:

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Regional Fishery Biologist

1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project:	I-Surveys and Inventories	Subproject:	I-E-Magic Valley Region
Job:	b	Title:	Lowland Lakes Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Midwater trawling for kokanee *Oncorhynchus nerka kennerlyi* at Anderson Ranch Reservoir and spawning kokanee trend counts on the South Fork Boise River indicate strong year classes of all ages of fish present in the reservoir. The trend count total was more than 50,000 fish including those at the Pine trap and there was 8,000 fish upstream of the trap, both numbers are greater than any previous year's spawner count. A total of 71 bull trout *Salvelinus confluentus* were sampled and released, of which 28 fish were radio-tagged at Anderson Ranch Reservoir during spring sampling. Radio-tagged fish were tracked throughout the summer with several moving up the South Fork Boise River to spawning grounds. Downstream migrant trapping efforts during the fall at Pine sampled 293 migrating bull trout between October 9 and November 30, 1998.

Five rainbow trout *Oncorhynchus mykiss* were radio-tagged at the mouth of the Big Wood River in Magic Reservoir to monitor spawning movements of the fish. The greatest distance traveled by one fish was in excess of 26 river kilometers up the Big Wood River from where it was released at Sheep Bridge. The other four fish moved shorter distances upstream or stayed in the reservoir.

An intensive creel survey was done on Mormon Reservoir duplicating a survey done in 1987. Results indicate approximately one-third of the angling effort was expended in 1998 as that in 1987, possibly due to lower catch rates for yellow perch *Perca flavescens*, and an encroachment of smartweed *Polygonun* spp., restricting bank fishing access. A survey done in 1996 had the same results as the 1998 survey, indicating that the switch to a two-trout limit in 1998 was not the reason for the decline in effort from 1987.

Forage trend surveys on Oakley and Salmon Falls Creek reservoirs indicate good levels of forage at Oakley Reservoir, but poor levels of forage at Salmon Falls Creek Reservoir. A midwater trawl kokanee survey at Salmon Falls Creek Reservoir sampled only five fish, not enough for a density or population estimate.

A standardized lowland lakes fishery sample was done on Sublett Reservoir. Over 95% of the fish biomass sampled was composed of brown trout *Salmo trutta*, cutthroat trout *Oncorhynchus clarki*, rainbow trout, or kokanee.

Authors:

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Fishery Technician

1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-E-Magic Valley Region
Job No.	c	Title:	Rivers and Streams Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Several tributaries to the South Fork Boise River were surveyed to determine bull trout *Salvelinus confluentus* and brook trout *S. fontinalis* presence and to determine the presence of natural or man-made barriers to upstream migrating fish. No new bull trout locations were found although brook trout were found in Lick Creek, a lower drainage tributary to Little Smoky Creek, which is a new location for that species. Rainbow trout *Oncorhynchus mykiss* of wild origin were found in almost every location sampled.

The South Fork Boise River, at the Deadwood Creek confluence, was sampled by electrofishing for a population estimate of rainbow trout, mountain whitefish *Prosopium williamsoni* and bull trout. Results indicate the rainbow trout population structure has shifted to a higher percentage of the population being fish at least 200 mm long since more restrictive fishing rules were implemented in 1992.

Big Cottonwood Creek at the wildlife management area was sampled by electrofishing downstream of the irrigation diversion. Results indicate that fish move downstream into the reach, which becomes dewatered during the irrigation season, and that the fishery could benefit from some water being bypassed over the diversion dam into the natural stream channel along with a fish ladder to allow fish to move upstream.

Willow Creek, a tributary to Camas Creek was sampled by electrofishing downstream of the Cherry Creek confluence. Good numbers of rainbow trout of various size classes were sampled indicating an increase in the population since previous year's surveys during low water years.

The Snake River at Centennial Park and near Buhl was electrofished for species composition trend data. Approximately 90% of the fish biomass at Centennial Park was composed of common carp *Cyprinus carpio* and largescale sucker *Catostomus macrocheilus*. Near Buhl approximately 95% of the fish biomass was largescale sucker, redside shiner *Richardsonius balteatus* and northern pikeminow *Ptychocheilus oregonensis*.

Author:

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1998 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-23

Project II: Technical Guidance Subproject: II-E-Magic Valley Region

Contract Period: July 1, 1998 to June 30, 1999

ABSTRACT

Magic Valley Region fishery management personnel furnished verbal and written comments of technical guidance to other agencies, consultants, private individuals, and organizations. Fishing information was provided to anglers in the forms of brochures, angler guides, public meetings, news releases, telephone, and in person.

Many miscellaneous activities were commented in, participated in, or otherwise addressed, and numerous meetings regarding fisheries were attended.

Regional fishery personnel investigated five different fish kills in 1998, which included two winter and one mid-summer low oxygen events. An electrical short in a water pump killed 45 brook trout *Salvelinus fontinalis* in Antelope Springs. A deliberate dump of ammonia into an irrigation drain into the Little Wood River resulted in the loss of more than 65,000 fish, primarily native nongame species.

Author:

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project III:	Habitat Management	Subproject:	III-E - Magic Valley Region
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Approximately 20 cubic yards of 1-in to 2-in washed river gravel was placed in two sites on Butte Creek below Hayspur Fish Hatchery for instream spawning of wild trout.

Design suggestions were provided to the Idaho Department of Transportation on pond and wetland developments at the Clear Lake Grade project adjacent to the Snake River. Ponds, when completed, will provide an additional site for a put-and-take fishery along with waterfowl habitat.

A good water year resulted in water pouring over the spillway from Mormon Reservoir. Loss of fish from the reservoir was reduced with the installation of a temporary fish weir in the spillway.

Scheduling problems delayed installation of a culvert passage structure on the Feather River, tributary to the South Fork Boise River, for bull trout *Salvelinus confluentus* passage.

Author:

Fred E. Partridge
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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project IV:	Population Management	Subproject:	IV-E-Magic Valley Region
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Fish populations and fishing in the Magic Valley Region was enhanced by stocking approximately 2.98 million put-and-grow and 0.61 million put-and-take size rainbow trout *Oncorhynchus mykiss*, brown trout *Salmo trutta*, and kokanee *O. nerka kennerlyi*, into lakes, reservoirs, rivers, and streams accessible by vehicle. High mountain lakes were stocked with Henrys Lake cutthroat trout *O. clarki bouvieri*, rainbow trout and Arctic grayling *Thymallus arcticus* fingerlings.

Other species released in the region for angler enjoyment and population enhancement included 1.7 million walleye *Stizostedion vitreum* fry in Salmon Falls Creek and Oakley reservoirs, 20,000 channel catfish *Ictalurus punctatus* in ponds and reservoirs, 300 tiger muskie *Esox lucius x masquinongy* in Dog Creek Reservoir, and 240 white sturgeon *Acipenser transmontanus* in the Snake River.

A goldfish *Carassius auratus* population was eradicated from Easley Hot Springs in the Big Wood River drainage by electroshocking.

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IDAHO
DEPARTMENT OF FISH AND GAME

Jerry Mallet, Interim Director

Federal Aid in Sport Fish Restoration
1998 Annual Performance Report
Program F-71-R-23

REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS
SOUTHEAST REGION (Subprojects I-F, II-F, III-F, IV-F)

PROJECT I. SURVEYS AND INVENTORIES
Job b. Southeast Region Lowland Lakes Investigations
Job c. Southeast Region Rivers and Streams Investigations
PROJECT II. TECHNICAL GUIDANCE
PROJECT III. HABITAT MANAGEMENT
PROJECT IV. POPULATION MANAGEMENT

By

Richard J. Scully, Regional Fishery Manager
James Mende, Regional Fishery Biologist
Chad Rawlins, Biological Aide

1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-F Southeast Region
Job:	b	Title:	Lowland Lakes Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Twin Lakes Reservoir was chemically renovated in 1994 to remove common carp *Cyprinus carpio* and was restocked with largemouth bass *Micropterus salmoides* and bluegill *Lepomis macrochirus*. Fisheries personnel monitored a Twin Lakes bass tournament. Twelve anglers caught 404 bass (3.7 bass/h). Because the population is young, 89% of the catch was less than the 20 cm stock size and proportional stock density was only 2%.

On July 24 and August 13, biological aides recorded dissolved oxygen, water temperature at eight locations on American Falls Reservoir. Water temperatures near the surface frequently reached 73°F and remained above 70°F down to a depth of 30-to 40-ft. Through the depth range of 30- to 40-ft dissolved oxygen decreased from 5.5 mg/l to 3.0 mg/l and decreased further at greater depth. This temperature/oxygen squeeze for salmonids lasted for about two weeks from late July through early August 1998.

We electrofished the special trout rule waters of Daniels and Treasureton reservoirs to look for fluorescent grit marked diploid and triploid rainbow trout *Oncorhynchus mykiss* as part of a statewide research project. We also used the sample of 75 trout from Daniels Reservoir and 148 trout from Treasureton Reservoir to monitor fish population. At Daniels and Treasureton reservoirs, 93% and 55% of rainbow trout over 12-in also exceeded 16-in.

We conducted an electrofishing survey on American Falls Reservoir on May 28, 1998 to monitor the newly developing smallmouth bass *M. dolomieu* population. In 1998, we collected 79 smallmouth bass, which was 34% of the 232 fish sampled. There were only two rainbow trout in the sample. The remaining fish were mainly forage sized yellow perch *Perca flavescens* (44), Utah suckers *Catostomus ardens* (64), redside shiners *Richardsonius balteatus* (34), Utah chubs *Gila atraria* (6), and sculpins *Cottus* spp. (3). The largest bass sampled was 34 cm, whereas the largest bass sampled in 1997 had been 28 cm. All bass weighed and measured had weights exceeding their expected standard weight.

We surveyed Weston Reservoir on June 18, 1998 to obtain baseline data as the bass rule changed from general limit to a 12-in to 16-in slot limit. Mean bass length was 7.3-in with a proportional stock density of 12%. Only 10 out of 219 bass sampled were $\geq$ 12-in. Of 182 yellow perch sampled, 62 (34%) were between 9-in and 11-in.

We surveyed Glendale Reservoir to document the status of the game fish community. We established a 16-in minimum size limit on largemouth bass in 1992 and stocked 250 pre-spawn white crappie *Pomoxis annularis* in Glendale Reservoir in May 1993. Additionally, there was at least a partial

fish kill in October of white crappie, bluegill, and bass. Gill nets and electrofishing captured 14 white crappie, 47 largemouth bass, and 23 rainbow trout. Sampled crappie ranged from 110 mm to 240 mm. Recent bass tournaments at Glendale Reservoir have documented a large population of 12-in to 15-in bass.

Authors:

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Chad Rawlins
Biological Aide

1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-F Southeast Region
Job:	c	Title:	Rivers and Streams Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

On July 1, 1998 we conducted an opening day check station of Upper Blackfoot River anglers. There are no obvious changes between 1994 and 1998 in opening day fishery statistics for cutthroat trout *Oncorhynchus clarki*. Catch rates remain near 1.5 trout/h.

In 1997, anglers asked for fishing rules in the American Falls Dam to Eagle Rock reach of the Snake River that would reduce harvest of quality size trout. In 1998, the trout creel limit changed from general limit to six trout with no more than two measuring 16-in. On the opening weekend of fishing season of 1997 and 1998, we measured 387 and 967 harvested trout, respectively, from this river reach. The percent of trout harvested that exceeded 12-in that also exceeded 16-in decreased from 63% in 1997 to 48% in 1998.

We conducted a season-long creel survey in the Snake River between American Falls Dam and Eagle Rock, a river reach approximately eight miles long. Anglers fished 63,555 h and caught 34,066 fish of which 26,102 were rainbow trout *O. mykiss*. This was an increase of 44% in rainbow trout catch from 1997. Anglers harvested 40% of 4,000 adipose-clipped catchable size rainbow trout stocked in 1997. Most were harvested during the 1997 season. During the 1998 season, anglers harvested 22% of 8,000 adipose-clipped catchable size trout stocked that spring.

Anglers reported dead trout in the Snake River below American Falls Dam in July 1998. On July 29 the regional fishery biologist collected 39 dead trout in a four-mile reach below the dam. At mid-day he recorded 5.0 to 5.1 mg/l dissolved oxygen and 22°C water temperature. Idaho Power Company was asked to turn on blowers in the dam to increase dissolved oxygen. At 6:00 am the following morning biological aides recorded 5.7 mg/l dissolved oxygen and 22.5°C water temperature. The aides collected 22 dead trout in a ¼ mile reach below the dam.

Regional fisheries personnel electrofished sections of Giraffe and Dry creeks to estimate population density of Bonneville cutthroat trout *O. clarki utah*. Average parr densities in these streams were 11.3/100 m^2 and 17.3/100 m^2, respectively. These densities are up considerably from 1993, when we found no parr in most sections.

The Idaho Division of Environmental Quality and regional fisheries personnel collected total suspended solids (TSS) data from several key areas on the upper Blackfoot River and its tributaries at several day intervals throughout the summer. Mean TSS in the Blackfoot River at the lower end of the Wildlife Management Area were four times lower than in the tributaries of Spring and Diamond creeks and about ⅔ that of Lanes Creek.

We sampled water temperature in Angus Creek, an upper Blackfoot River tributary on July 22, 1998 because of our concern this stream has unusually high summer temperature. Four mid-day samples on Angus Creek ranged from 21.9°C to 22.3°C. Water temperature samples from nearby tributaries ranged

from 9°C to 17.4°C and three samples from a nearby reach of the Blackfoot River ranged from 17.0°C to 18.1°C.

We sprayed fluorescent grit mark onto 200,000 fingerling rainbow trout for stocking into the Snake River upriver from American Falls Reservoir. Mark retention several weeks later, as the fish were being stocked, was 91%.

Authors:

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Biological Aide

1998 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-23

Project II: Technical Guidance Subproject: II-F Southeast Region

Contract Period: July 1, 1998 to June 30, 1999

ABSTRACT

Regional fisheries participated in a Bonneville cutthroat trout *Oncorhynchus clarki utah* Conservation Agreement field tour and provided written observations and recommendations.

We participated in multiple meetings relative to the Federal Energy Regulatory Commission relicensing process for PacifiCorp projects on the Bear River. We also participated in preparation of written comments relative to the Draft License Applications.

We attended multiple meetings relative to the petition to list Bonneville cutthroat trout under the Federal Endangered Species Act. Additionally, we wrote a review of the status of this species in Idaho and presented it to the U.S. Fish and Wildlife Service. Additionally, we researched literature on Bonneville cutthroat trout and wrote an updated status report for use by the Fisheries Bureau and for further status information to the U.S. Fish and Wildlife Service.

We issued several private fish pond permits, fishing tournament permits, and commented on water rights applications.

We provided fishing advice to anglers through the state's Internet web page and the 1-800-ASK FISH service.

We participated in the upper Blackfoot River interagency and mining industry selenium evaluation. We attended several meetings where we provided technical input on fisheries and provided technical assistance in collecting fish for selenium bioassays.

Author:

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project III:	Habitat Management	Subproject:	III-F Southeast Region
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

We helped landowner Carl Phillips restore riparian habitat along 1¼ mile of the upper Portneuf River. We worked with the Natural Resources Conservation Service (NRCS) to design vegetative and rock-barb measures, riparian fences, and water gaps. We removed old non-functioning fences, and with the help of volunteers cut over 1,000 willows. Willows were bundled and planted in appropriate riparian areas. We cut over 200 junipers for revetment placement in 1999.

We maintained riparian corridor fences on the King Creek Grazing Association reach of the upper Portneuf River.

Regional fisheries personnel and NRCS biologists monitored habitat conditions on the Arimo Ranch reach of Marsh Creek and measured sediment deposition at four revetment locations. We summarized information for presentation at a Non-Points Source Pollution Workshop.

Authors:

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project IV:	Population Management	Subproject:	IV-F Southeast Region
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Southeast Region fisheries management worked with Grace Hatchery and Shelley High School staff and students to capture adult Yellowstone cutthroat trout *Oncorhynchus clarki bouvieri* from the upper Blackfoot River, artificially spawn them, and place eyed eggs into stream-side incubation boxes on Blackfoot River tributaries. Participants introduced 59,168 eggs into Mill, May and Timber creeks. Of these, 39,915 (67%) hatched. Most of the eggs that died were in Timber Creek, where sediment and high flows contributed to egg loss.

The regional fishery biologist renovated McTucker Pond #1 in November 1998 to remove non-game fish. All eight of the McTucker ponds were flooded by the Snake River in the spring of 1997 and repopulated with rough fish species. Bingham County Highway Department removed additional gravel from this flooded gravel pit and pumped most of the water from the pond during this operation. The Department received a short-term activity exemption from the Idaho Division of Environmental Quality to take advantage of this opportunity for chemical renovation.

We wrote an American Fisheries Society 7-step analysis for a proposed introduction of walleye *Stizostedion vitreum* into two Franklin County reservoirs. This document was submitted to the Fisheries Bureau for peer review by the state's fisheries managers and researchers.

Authors:

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IDAHO
DEPARTMENT OF FISH AND GAME

Jerry Mallet, Interim Director

Federal Aid in Sport Fish Restoration
1998 Annual Performance Report
Program F-71-R-23

REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS
UPPER SNAKE REGION (Subprojects I-G, II-G, III-G, IV-G)

PROJECT I. SURVEYS AND INVENTORIES
- Job a. Upper Snake Region Mountain Lakes Investigations
- Job b. Upper Snake Region Lowland Lakes Investigations
- Job c[1]. Upper Snake Region Rivers and Streams Investigations
- Job c[2]. Henrys Fork Snake River, Buffalo River, Willow Creek Investigations

PROJECT II. TECHNICAL GUIDANCE
PROJECT III. HABITAT MANAGEMENT
PROJECT IV. POPULATION MANAGEMENT

By

Mark Gamblin, Regional Fishery Manager
Jeff Dillon, Regional Fishery Biologist
William C. Schrader, Senior Fishery Research Biologist

1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-G Upper Snake Region
Job:	a	Title:	Mountain Lakes Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Regional personnel used gillnetting and angling gear to sample fish in Big, Rough, Round, Long, and Golden lakes in the Lake Creek drainage of the Copper Basin, and Fishpole, Bobber, Brockie, Iron Bog, and Star Hope lakes in the Antelope Creek drainage. All had been stocked in 1995. Total catch in all lakes was low (0- to 12-fish) and scales and otoliths were taken from each fish sampled. Spotted frogs *Rana luteiventris* were abundant in the Lake Creek drainage, but were not detected in the Antelope Creek drainage.

This was our second year of effort at building a database on fish growth and size structure, and amphibian presence/absence in Upper Snake Region mountain lakes. As the database develops, we will use the information to modify stocking programs where appropriate. We will summarize the first three years of inventory data in next year's report.

Authors:

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-G Upper Snake Region
Job:	b	Title:	Island Park Reservoir, Ririe Reservoir, Henrys Lake Lowland Lakes Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Gill net catch composition on Island Park Reservoir in May was 80% non-game fish (Utah chubs *Gila atraria,* Utah suckers *Catostomus ardens*, and redside shiners *Richardsonius balteatus*). Hatchery and wild rainbow trout *Oncorhynchus mykiss* comprised 14% of the catch, the lowest proportion since the 1992 renovation.

We conducted a randomized creel survey on Ririe Reservoir from June 1 through October 8. Creel clerks contacted 381 anglers who fished 893 hours, caught 1,018 fish, and harvested 459 fish. Total catch rate was 1.14 fish/h and harvest rate was 0.51 fish/h. Harvest composition was primarily hatchery rainbow trout (73%), yellow perch *Perca flavescens* (22%), and splake *Salvelinus fontinalis x S. namaycush* (2.7%). Catchables from Nampa and Hagerman hatcheries were stocked in equal proportions, and returned to the creel at similar rates. Mackay "magnum" catchables (11-in to 12-in) returned to the creel at twice the rate of standard (9-in to10-in) catchables.

Catch data for five bass tournaments on Ririe Reservoir were summarized. Average tournament catch rate for legal smallmouth bass *Micropterus dolomieu* and largemouth bass *M. salmoides* was 0.25 fish/hr.

The 1998 spawning operations at Henrys Lake produced 1,399,939 eyed cutthroat trout *O. clarki* eggs and 408,695 eyed rainbow-cutthroat hybrid trout eggs. Cutthroat trout in the Hatchery Creek run averaged 444 mm and hybrid trout averaged 445 mm. Brook trout *S. fontinalis* spawning in the hatchery and the supplemental stocking program were discontinued in 1998. Catch composition in six net nights of gillnetting at Henrys Lake was 62% cutthroat, 15% hybrid, 20% brook trout, and 3% Utah chubs.

Pathology tests did not detect *Myxobolus cerebralis* in Henrys Lake cutthroat trout in 1998.

Preliminary genetic analyses of the Hatchery Creek spawning run indicate that most cutthroat trout are introgressed at some level with rainbow trout. Phenotypic traits were not useful for distinguishing pure cutthroats from hybrids in the spawning run. Additional genetic samples taken throughout the run will be required to fully describe the level of introgression and develop management strategies to enhance the genetic purity of the hatchery run.

Authors:

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-G Upper Snake Region
Job:	c[1]	Title:	South Fork Snake River Snake River Rivers and Streams Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

In the South Fork Snake River, a total of 2,236 individual trout were captured during four days of electrofishing at the Conant section in October 1998. Trout species composition and relative abundance were wild and hatchery cutthroat trout *Oncorhynchus clarki* (59%), wild rainbow *O. mykiss* and rainbow-cutthroat hybrid trout (20%), wild brown trout *Salmo trutta* (21%), and lake trout *Salvelinus namaycush* (<1%).

Brown trout relative abundance has varied from 7% to 21% since 1982, the first year of electrofishing. There is no apparent trend. Cutthroat trout relative abundance was 5% higher than in 1997, the all time low. In contrast, rainbow and hybrid trout relative abundance was 7% lower than in 1997, the all time high.

Average length was 295 mm for wild and hatchery cutthroat trout, 318 mm for rainbow and hybrid trout, 279 mm for brown trout, and 297 mm for all species combined. Quality Stock Density was 4.8% for wild and hatchery cutthroat trout, 13.3% for rainbow and hybrid trout, 8.4% for brown trout, and 7.4% for all species combined.

Estimated density of age-1 and older fish was 237 fish/ha for wild and hatchery cutthroat trout, 64 fish/ha for rainbow and hybrid trout, 34 fish/ha for brown trout, and 308 fish/ha for all species combined.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-G Upper Snake Region
Job:	c^2	Title:	Henrys Fork Snake River Buffalo River, Willow Creek Rivers and Streams Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

An electrofishing survey on the Box Canyon Reach of the Henrys Fork provided a population estimated of 6,619 wild rainbow trout *Oncorhynchus mykiss* over 150 mm in length. This is a 25% increase from 1997, and a 57% increase from the 1996 estimate. The decline in Quality Stock Density (QSD), 406 mm, since the high of 39% in 1994 likely reflects gradual loss of large fish flushed from Island Park Reservoir during the 1992 drawdown, and also an increase in wild recruitment below the dam. Size structure appears to have stabilized in the last two years, with a QSD of 12.7% in 1997 and 11.9% in 1998.

An estimated 414 rainbow trout (134 >406 mm) ascended the Buffalo River fish ladder from January 1 to April 23. Estimates were considerably lower than counts done in 1997. Attempts to estimate emigration of juvenile rainbow trout into Box Canyon were unsuccessful, but evidence to date suggests that operation of the ladder has increased recruitment of age-1 rainbow trout to the Henrys Fork.

We electrofished the Stone Bridge section of the Henrys Fork to monitor size structure of the rainbow trout population and collected samples for pathological examination. Although the presence of *Myxobolus cerebralis* the parasite causing whirling disease was confirmed in this section in 1997, there is no evidence of year-class failures or other population effects on rainbow trout population.

From June 19 to October 17, we surveyed anglers on the Henrys Fork between Ora Bridge and Chester Dam. Mean catch rate was 1.3 fish/h, and release rate for rainbow and brown trout was 99%. Although there are no gear restrictions on this section, over 90% of the recorded effort was by fly anglers.

As part of ongoing regional efforts to monitor Yellowstone cutthroat trout *O. clarki bouvieri* populations, we re-surveyed four Willow Creek tributaries which had not been sampled since the early 1980s. In four of five sites, cutthroat trout densities were lower than in previous surveys. Additional surveys will be necessary to fully describe status of cutthroat trout in the Willow Creek drainage. Future surveys should include assessment of stream habitat.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project II:	Technical Guidance	Subproject:	II-G Upper Snake Region
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Technical guidance was provided to 42 federal, state, county, and municipal agencies and private organizations upon request. This guidance was in the form of fish pond development, stocking and management advice, funding requests, project feasibility opinions, and various conservation and educational programs. We also responded to numerous requests for technical assistance and permit processing by private pond owners. Particular attention was given to private pond permit applications in the South Fork Snake River, Willow Creek, Teton River, and Henrys Lake watersheds, where native Yellowstone cutthroat trout *Oncorhynchus clarki bouvieri* management goals might conflict with private requests to stock rainbow trout *O. mykiss* in those watersheds.

We gave five informational presentations to sporting groups and the Idaho Fish and Game Commission on the status of rainbow and cutthroat trout in the South Fork Snake River, responding to public concerns and questions about cutthroat trout conservation measures implemented by regional personnel.

Regional fishery management personnel contributed over 100 man-days to technical guidance requests in 1998.

Author:

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project III:	Habitat Management	Subproject:	III-G Upper Snake Region
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Regional personnel conducted routine maintenance and repair operations on Henrys Lake riparian fence, irrigation diversion fish screens, and Palisades Creek and Burns Creek irrigation diversion fish screens. The 1997 flood flows on Palisades Creek resulted in erosion damage to the canal diversion, fish screen by-pass pipe facility, and sedimentation problems in the fish screen containment basin. Engineering Bureau work crews repaired 1997 flood damage to the Palisades fish screen infrastructure and began construction of a new irrigation diversion structure for the Palisades canal on Palisades Creek.

Regional fish management personnel, Bingham County personnel, and students from Shelley High School maintained the Sellars Creek riparian fence and continued work to replace the Sellars Creek culvert fish ladder and to repair damage to the Sellars Creek channel.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project IV:	Population Management	Subproject:	IV-G Upper Snake Region
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

In October, approximately 398 game fish, including 59 cutthroat trout *Oncorhynchus clarki*, 2 rainbow (*O. mykiss)* and rainbow-cutthroat hybrid trout, 116 brown trout *Salmo trutta,* 151 lake trout *Salvelinus namaycush*, and 70 mountain whitefish *Prosopium williamsoni* were salvaged from the Palisades Dam stilling basin and released to the South Fork Snake River immediately below the stilling basin. The number and size distribution of lake trout sampled again confirm this species is reproducing naturally in Palisades Reservoir. Beginning the fall of 1999, U.S. Bureau of Reclamation personnel will assume responsibility for the salvage effort, under the direction of the Department regional fisheries management personnel.

Mud Lake was stocked with 50,000 Lahontan cutthroat trout *O. clarki henshawi* in October and with 30,000 tiger muskie *Esox lucius* x *E. masquinongy* in late August.

We stocked 11 mountain lakes with 11,000 cutthroat trout, 7,000 rainbow trout, and 5,000 Arctic grayling *Thymallus arcticus* in September. All fish were reared at Mackay or Ashton hatcheries and were stocked by the Department personnel and volunteers via foot, motorcycle, and horseback.

Catchable rainbow trout were again provided to two private pond owners, at their request, for the purpose of supporting public youth and developmentally challenged fishing opportunities.

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IDAHO
DEPARTMENT OF FISH AND GAME

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Federal Aid in Sport Fish Restoration
1998 Annual Performance Report
Program F-71-R-23

REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS
SALMON REGION (Subprojects I-H, II-H, III-H, IV-H)

PROJECT I. SURVEYS AND INVENTORIES
- Job a. Salmon Region Mountain Lakes Investigations
- Job b. Salmon Region Lowland Lakes Investigations
- Job c. Salmon Region Rivers and Streams Investigations
- Job d. Salmon and Steelhead Investigations

PROJECT II. TECHNICAL GUIDANCE
PROJECT III. HABITAT MANAGEMENT
PROJECT IV. POPULATION MANAGEMENT

By

Mark Liter, Regional Fishery Biologist
Mike Larkin, Regional Fishery Manager
Tom Curet, Regional Fishery Biologist

1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-H Salmon Region
Job:	a	Title:	Mountain Lakes Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

Five mountain lakes were surveyed in the Salmon Region during August 1998. All surveys conducted were within the Salmon/Challis National Forest. Each lake was surveyed for use, status of fishery, fish population, natural recruitment potential, and past stocking strategies.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fisheries Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-H Salmon Region
Job:	b	Title:	Lowland Lakes Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

In November 1998, Williams Lake experienced a fish kill. As the lake was in the process of freezing, the Department was notified of dead fish along the shoreline. We were unable to ascertain the magnitude of kill as the lake was nearly ice covered. Experimental gill nets were set for six hours during daylight and few fish were captured. The extent of loss will not be known until April when we conduct our spawning ground surveys and egg-take operation.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fishery Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-H Salmon Region
Job:	c-Wild Trout Population Surveys	Title:	Rivers and Stream Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

During summer 1998, we surveyed the mainstem Salmon River between Salmon and Clayton, Idaho in order to assess fish populations. Mountain whitefish *Prosopium williamsoni* were the predominant species found in four electrofishing sites combined (58%). Rainbow trout *Oncorhynchus mykiss*, wild and hatchery combined, were rare (2%). Sucker *Catostomus spp.* (23%), dace *Rhinichthys spp.* (3%), juvenile chinook salmon *O. tshawytscha* (3%), northern pikeminnow *Ptychocheilus oregonensis* (4%), sculpin *Cottus spp.*, and chiselmouth *Acrocheilus alutaceus* were also present. Non-game species comprised 40% of the total electrofishing catch.

Introduced brook trout *Salvelinus fontinalis* likely have contributed to the decline of westslope cutthroat trout *O. clarki lewisi* in Valley Creek. Multiple-pass electrofishing was used in 1998 in an ongoing effort to reduce brook trout numbers. In a continued effort to reestablish a fishable population of cutthroat trout, 4,503 brook trout were removed while a total of 422 cutthroat trout and 336 bull trout *S. confluentus* were transplanted into Valley Creek from several area streams.

Rainbow trout spawning ground surveys were conducted in the upper Lemhi River to monitor the benefits of regulation changes and Model Watershed sponsored habitat improvement projects. A substantial increase was noted in 1998 compared to previous years.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fishery Management F-71-R-23
Project I:	Surveys and Inventories	Subproject:	I-H Salmon Region
Job:	d	Title:	Salmon and Steelhead Investigations
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

We conducted annual chinook salmon *Oncorhynchus tshawytscha* redd counts in the Marsh Creek drainage, Valley Creek, Salmon River, Lemhi River, East Fork Salmon River, Pahsimeroi River, and the Yankee Fork Salmon River. This data will be included in the statewide annual *Salmon Spawning Ground Surveys* report.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fishery Management F-71-R-23
Project II:	Technical Guidance	Subproject:	II-H Salmon Region
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

During 1998, technical assistance was provided to all state and federal agencies upon request. Comments were submitted to various agencies and private entities concerning stream alterations, bank stabilization, mining operations and reclamation plans, fish rearing proposals, private ponds, water right applications, grazing allotments, timber sales, highway reconstruction, habitat improvements, bridge construction, and hydropower projects. On-site inspections of proposed, on-going, and completed projects were conducted.

Technical assistance was also provided in the form of angler informational meetings; school presentations, multi-agency collaborative groups, and development of the Salmon Region portion of the 1-800-ASK-FISH program. Also, we responded to the general public in person, by telephone, and by mail to inquiries about fishing opportunities, techniques, regulations, and area specifics.

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1998 ANNUAL PERFORMANCE REPORT

State of:	Idaho	Program:	Fishery Management F-71-R-23
Project III:	Habitat Management	Subproject:	III-H Salmon Region
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

During 1998, we secured funding through the Sport Fish Restoration Program to construct an urban fishing pond. This program provided $60,000 of in-kind matching funds for actual pond construction, as well as, for the purchase and installation of water control structures. The approximately one-acre pond, located within the city limits of Challis is situated on 3.67 acres of ground, which was donated for this project. Officially named the Blue Mountain Meadow Pond, this site will provide urban angling and educational opportunity for youth, and an angling opportunity for elderly and disabled individuals. The City of Challis and the Department have entered into an agreement for the care of the pond. The City will be responsible for ground maintenance, improvements of the pond, and its facilities. The Department will be responsible for monthly fish stocking.

Funding of $120,000 ($100,000 BPA & $20,000 U.S, Forest Service) was obtained during 1998 for work on the Salmon River Restoration project, on a 12-mile reach of river near Challis. Site plans were developed with three landowners and permits have been submitted for work to begin in the spring of 1999. A preliminary work plan has been developed by the U.S. Army Corps of Engineers for this river section.

Fisheries staff continued to work with the Fish Screen Program and the Model Watershed Program on habitat restoration projects. Staff assisted with stream surveys in Stanley Basin to look at potential tributary reconnections by improving irrigation efficiency and removing migration barriers. Approximately five miles of fence was constructed and several eroding stream banks were stabilized with rock barbs and willow plantings. A proposal to reconnect Canyon Creek to the Lemhi River was developed with the landowner. Final cost estimates are being developed and project implementation could occur in 1999.

A collaborative group of landowners and agency personnel called the East Fork Salmon River Watershed Group was developed in 1998 to attempt a holistic approach for managing the watershed. Grant monies are being pursued to hire a facilitator/recorder and for mapping and administrative costs to develop an action plan for the basin.

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1998 ANNUAL PERFORMANCE REPORT

State Of:	Idaho	Program:	Fisheries Management F-71-R-23
Project IV:	Population Management	Subproject:	IV-H Salmon Region
Contract Period:	July 1, 1998 to June 30, 1999		

ABSTRACT

During the summer of 1998, 76 mountain lakes were stocked in the Salmon Region. A total of 61,550 fry were stocked in Salmon and Challis National Forest lakes. Species stocked included 2,000 Arctic grayling *Thymallus arcticus*, and 59,550 westslope cutthroat trout fry *Oncorhynchus clarki lewisi*. A Cessna-185 fixed-wing aircraft was used to stock Salmon Region lakes in 1998 at a cost of $26.04 per lake.

Brook trout *Salvelinus fontinalis* were removed by gillnetting and detonation cord from Carlson Lake May 22-23, 1998 in a continuing effort to manipulate the structure of the population. A total of 818 brook trout were removed during a total of 483.3 diel net hours. Average catch across the entire time period was 1.62 fish/h. The use of detonation cord resulted in an additional 460 brook trout mortalities recovered in Carlson Lake.

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IDAHO
DEPARTMENT OF FISH AND GAME

Jerry Mallet, Interim Director

Federal Aid in Sport Fish Restoration
1998 Annual Performance Report
Program F-71-R-23

REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS

PROJECT V. COORDINATION

By

Bill Hutchinson, State Fishery Manager
William D. Horton, Resident Fishery Coordinator

1998 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-23

Project V: Coordination Subproject: Regional Coordination and Assistance

Contract Period: July 1, 1998 to June 30, 1999

ABSTRACT

The State Fishery Manager and the Resident Fishery Coordinator provided program guidance, coordination, and assistance to fisheries management personnel in eight regions. Midwater trawling to estimate kokanee salmon *Oncorhynchus nerka kennerlyi* abundance was conducted in seven waters (Payette Lake, Anderson Ranch Reservoir, Salmon Falls Creek Reservoir, Redfish Lake, Alturas Lake, Pettit Lake, and Stanley Lake). This work is coordinated through the Bureau of Fisheries where all equipment is stored and maintained; however, regional personnel and fish research personnel conducted the sampling. Findings are reported in regional reports and the sockeye investigations report.

Coordination and assistance was also provided through annual work plan meetings, a three-day Fisheries Manager Coordination meeting, Region-Fisheries Bureau Coordination meetings, and numerous smaller meetings. Interstate management coordination included meetings with bordering states of Oregon, Utah, and Wyoming. Interagency coordination meetings were held with federal land management agencies, other state agencies, the U.S. Fish and Wildlife Service, and the Columbia Basin Fish and Wildlife Authority-Resident Fish Committee.

The Bureau of Fisheries also coordinated the issuance of 162 permits for fishing tournament. Mandatory report forms for these tournaments have been filed for future trend analysis. Scientific collecting permits were issued to approximately 213 individuals for the study of aquatic species. Most investigators receiving collecting permits are resource agency biologists; however, university students and professors, utility companies, timber companies, Indian tribes, and consultants also received permits. Reports from these permits are used for fish species distribution data, Endangered Species Act accounting, and general fisheries management information.

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IDAHO DEPARTMENT OF FISH AND GAME

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